

**IN THE DRAWINGS:**

The attached sheet of drawings includes changes to Figures 3 and 4.

**Attachment:        Replacement Sheet**  
**Annotated Sheet Showing Changes**

## REMARKS

This is intended as a full and complete response to the Final Office Action dated March 29, 2005, having a shortened statutory period for response set to expire on June 29, 2005. Applicants submit this response to place the application in condition for allowance or in better form for appeal. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-26 are pending in the application. Claims 1-26 remain pending following entry of this response. Claims 10 and 14 have been amended. Figures 3 and 4 have been amended to reflect the plan views described in the original specification. Applicants submit that the amendments and new claims do not introduce new matter.

### Claim Rejections - 35 U.S.C. § 102 and § 103

Claims 10-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over *Takagi et al.* (U.S. Patent 5,625,219, hereinafter *Takagi*).

Claim 10 has been amended to recite that the conductive region and the nonconductive region are both formed in a substrate. Therefore, claims 10-13 are believed to be allowable, and allowance of these claims is respectfully requested.

Applicants respectfully traverse this rejection with respect to claims 14-20.

The Examiner takes the position that *Takagi* discloses in Figures 1-6 and respective portions of the specification an antifuse and an inherent method of using the antifuse as claimed. Specifically, the Examiner states that *Takagi* discloses an antifuse, comprising:

- a first conductive region (62), the first conductive region defining a first upper surface (62US) and a first lateral boundary surface (SS) which meet at an angle (62C) to form an edge;

- a nonconductive region (7B) adjoining the first conductive region (62), the nonconductive region defining a second upper surface and a second lateral boundary surface (SS); wherein the first and second lateral boundary surfaces are in facing relationship and form an interface (generally indicated as SS); and

- a dielectric layer (7A) disposed over at least a portion of the first upper surface (62US) of the first conductive region and at least a portion of the edge (62C), whereby an area of relatively increased field strength is produced during application of a programming voltage to form a

breakdown channel (71) in the dielectric layer; and a second conductive region (10) on the dielectric layer.

Regarding the rejection under 35 U.S.C. 102(b), "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

In this case, *Takagi* does not disclose "each and every element as set forth in the claim". For example, *Takagi* does not disclose the nonconductive region and the dielectric layer as separate components. As another example, *Takagi* does not disclose that the nonconductive region defines a second upper surface and that a dielectric layer is disposed over at least a portion of the second upper surface. Applicants respectfully submit that the reference does not disclose the "identical invention" or "each and every element" as required under 35 U.S.C. 102(b).

Regarding the alternative rejection under 35 U.S.C. 103(a), the Examiner bears the initial burden of establishing a *prima facie* case of obviousness. See MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP § 2143. The present rejection fails to establish at least the first criteria or the third criteria.

As discussed above, *Takagi* does not disclose the nonconductive region and the dielectric layer as separate components. Moreover, the Examiner has not pointed out any suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art, to modify the reference or to combine the reference teachings. Thus, the Examiner has failed to properly establish a *prima*

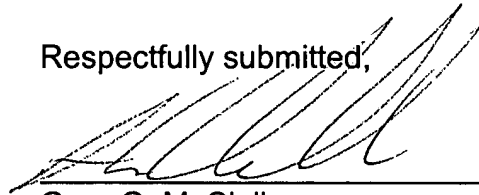
*facie* case of obviousness because *Takagi* does not provide any motivation to modify the taught structure and does not teach or suggest all the claim limitations.

Furthermore, Applicants submit that the Examiner improperly interpreted that "a single region 7 is functionally equivalent to the nonconductive region 2 and the dielectric layer 4." "In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents." MPEP § 2144.06, *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958). Applicants respectfully submit that the Examiner has not provided the required showing to establish equivalence. Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

#### Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



---

Gero G. McClellan  
Registration No. 44,227  
MOSER, PATTERSON & SHERIDAN, L.L.P.  
3040 Post Oak Blvd. Suite 1500  
Houston, TX 77056  
Telephone: (713) 623-4844  
Facsimile: (713) 623-4846  
Attorney for Applicant(s)

# ANNOTATED SHEET SHOWING CHANGES

ATTY DKT. NO.: INFN/WB0040  
 U.S. SERIAL NO.: 10/724,009  
 FILED: NOVEMBER 26, 2003  
 TITLE: METHOD FOR PRODUCING AN ANTIFUSE STRUCTURE AND ANTIFUSE  
 INVENTOR(S): JÜRGEN LINDOLF ET AL.

CONF. NO.: 7545

1/1

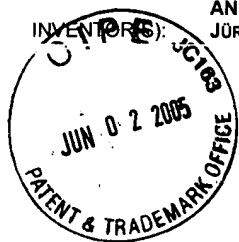


FIG 1

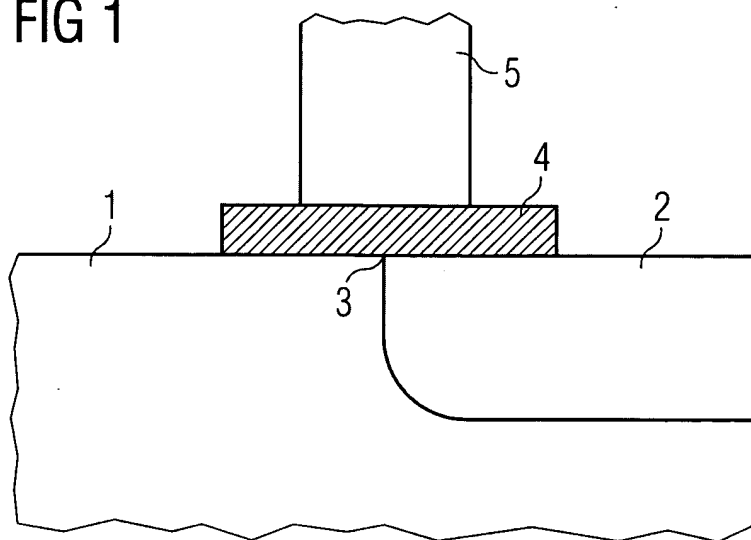


FIG 2

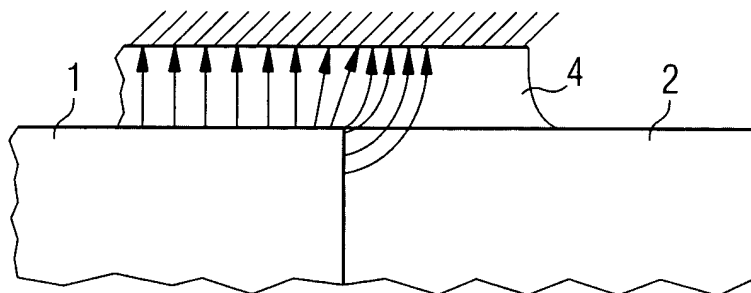


FIG 3

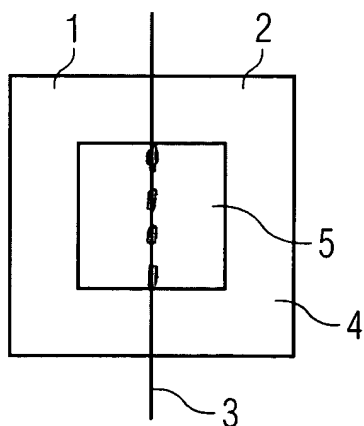


FIG 4

